

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2000	
BUDGET ACTIVITY 05 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604735F Combat Training Ranges				PROJECT 652286	
COST (\$ in Thousands)	FY 1999 Actual	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
652286 Combat Training Range Equipment	13,141	11,828	12,559	13,124	13,172	14,820	15,113	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0
<p>(U) <u>A. Mission Description</u></p> <p>Air Combat Training Systems (ACTS) provide equipment for Air Force combat training ranges to support mission training/evaluation of aircrews, as well as the operational testing of weapons systems and tactics under simulated combat conditions. This program develops the electronic telecommunications, and instrumentation equipment/systems for the training ranges. ACTS are interoperable with Navy combat training ranges, and provide the capability to train aircrews in air-to-air combat, air-to-ground combat, and electronic warfare, while providing real-time monitoring and control of aircraft during large force exercises and recording events for post-mission debrief and analysis. Current plans call for continued development and fielding of the Joint Tactical Combat Training System (JTCTS), a significantly improved version of currently fielded ACTS. Another effort is to develop the advanced threat Mini-(MUTES) Multiple Threat Emitter System Modification Program (M3P) to satisfy Air Force Electronic Warfare training capability requirements. The required system modifications will enable Mini-MUTES to incorporate the latest, most lethal advanced surface-to-air threats. This program element also funds aircraft/pod interfaces, software interoperability among service ranges and the encryption of range/aircraft data links, specifically the Nellis Air Combat Training System (NACTS) which supports Red Flag, Green Flag and USAF Fighter Weapons School training.</p> <p>(U) <u>FY 1999 (\$ in Thousands)</u></p> <p>(U) \$3,078 Continued Combat Training Ranges (CTR) basic operating support, and system acquisition and engineering support for range and threat systems</p> <p>(U) \$1,710 Continued interoperability improvements with existing Air Force and Navy ranges to include software, upgrades, and weapons simulation development</p> <p>(U) \$1,000 Continued Joint Tactical Combat Training System (JTCTS) development</p> <p>(U) \$926 Continued development of aircraft interfaces with aircraft/Pod integration for range applications with aircraft program offices</p> <p>(U) \$4,175 Continued Mini-(MUTES) Multiple Threat Emitter System Modification Program (M3P) Advanced Threats</p> <p>(U) \$2,252 Continued ASSET [ACTS (Air Combat Training System) Software Support Evaluation and Test] efforts</p> <p>(U) \$13,141 Total</p>									
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(U) **A. Mission Description Continued**

(U) FY 2000 (\$ in Thousands)

(U) \$2,839	Continue CTR basic operating support, and system acquisition and engineering support for range and threat systems
(U) \$620	Continue interoperability improvements with existing Air Force and Navy ranges to include software, upgrades, and weapons simulation development
(U) \$3,000	Develop and integrate Advanced Message Oriented Data Security Module (AMODSM) encryption capability into NACTS Pods
(U) \$4,764	Continued Mini-(MUTES) Multiple Threat Emitter System Modification Program (M3P) Advanced Threats
(U) \$505	Continue development of aircraft interfaces with aircraft/Pod integration for range applications with aircraft program office
(U) \$100	Continue ASSET efforts
(U) \$11,828	Total

(U) FY 2001 (\$ in Thousands)

(U) \$3,751	Continue CTR basic operating support, and system acquisition and engineering support for range and threat systems
(U) \$2,692	Continue interoperability improvements with existing Air Force and Navy ranges to include software, upgrades, and weapons simulation development
(U) \$2,007	Continue development of aircraft interfaces with aircraft/Pod integration for range applications with aircraft program office
(U) \$2,764	Continue M3P Advanced Threats
(U) \$1,200	Continue development of Multiple Threat Emitter System (MUTES) Computer Upgrade
(U) \$145	Continue ASSET efforts
(U) \$12,559	Total

(U) **B. Budget Activity Justification**

This program is in budget activity 5 - Engineering and Manufacturing Development because the Combat Training Ranges (CTR) Program directly contributes to the effectiveness and survivability of US combat forces by developing range instrumentation and training systems to increase the effectiveness of the training spectrum from individual aircrew skill training to large-scale exercises.

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BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT			
05 - Engineering and Manufacturing Development				0604735F Combat Training Ranges			652286			
(U) <u>C. Program Change Summary (\$ in Thousands)</u>										
		<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Total Cost</u>					
(U)	Previous President's Budget (FY 2000 PBR)	13,999	6,220	12,670	TBD					
(U)	Appropriated Value	14,581	12,020							
(U)	Adjustments to Appropriated Value									
	a. Congressional/General Reductions	-541	-37							
	b. Small Business Innovative Research	-463								
	c. Omnibus or Other Above Threshold Reprogram		-80							
	d. Below Threshold Reprogram	-321								
	e. Rescissions	-115	-75							
	f. Other									
(U)	Adjustments to Budget Years Since FY 2000 PBR			-111						
(U)	Current Budget Submit/FY 2001 PBR	13,141	11,828	12,559	TBD					
(U) <u>Significant Program Changes:</u>										
FY99 Includes \$51,000 Cancelled Year Bill										
FY00 Includes \$5,800,000 Congressional Plus-Up to fund M3P disconnects and to begin development for Pod Encryption for NACTS										
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u>										
		<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>Cost to</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U)	PE27429F: Appn: Other Procurement, AF (OPAF) Program Title: Combat Training Ranges	18,767	45,023	26,003	27,625	26,824	33,667	32,096	Continuing	TBD
(U)	Initial Spares	1,823	2,055	771	780	781	797	813	Continuing	TBD
(U)	Total OPAF	20,590	47,078	26,774	28,405	27,605	34,464	32,909	Continuing	TBD
(U)	PE27429F: Appn: Aircraft Procurement, AF (APAF), Program Title: Combat Training Ranges	413	16,736	18,107	18,010	18,176	18,721	19,135	Continuing	TBD
(U)	Initial Spares	37	265	1,256	1,368	1,393	1,429	1,463	Continuing	TBD
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(U) <u>D. Other Program Funding Summary (\$ in Thousands)</u>												
	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>Cost to</u>	<u>Total Cost</u>			
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>				
(U) Total APAF	450	17,001	19,363	19,378	19,569	20,150	20,598	Continuing	TBD			
(U) <u>E. Acquisition Strategy</u>												
The acquisition strategy is competitive, with cost plus contracts.												
(U) <u>F. Schedule Profile</u>												
	<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Nellis Air Combat Training System (NACTS)												
(U) Operational Fielding				*								
(U) NACTS Encryption Contract Award								X				
(U) Advanced Threats Development (M3P)												
(U) Preliminary Design Review (PDR)	*											
(U) Field Testing								X	X			
(U) Production Decision										X		
(U) IOC												X
(U) Joint Service Range Software Interoperability												
(U) Joint Service AMRAAM 5.1 Software Upgrade					*							
(U) Joint Service Tracking Instrumentation Subsystem Emulator (TISM)							X					
(U) Digital Display System (DDS) Replacement with Advanced DDS (ADDS)				*								
(U) Joint Tactical Combat Training System (JTCTS)												
(U) Tech Eval Report Complete					*							
(U) ASSET Facility												
(U) ADDS 4.1 & 5.0 AF/Navy Integration							X		X			
(U) DDS Upgrade Air National Guard (ANG)							X					
(U) * = Completed event												

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BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT																									
05 - Engineering and Manufacturing Development					0604735F Combat Training Ranges					652286																									
<div style="display: flex; justify-content: space-between;"> <div style="width: 35%;"> <p>(U) <u>F. Schedule Profile Continued</u></p> </div> <div style="width: 60%; text-align: center;"> <table style="margin: auto; border-collapse: collapse;"> <tr> <th colspan="4" style="text-align: center; padding: 5px;"><u>FY 1999</u></th> <th colspan="4" style="text-align: center; padding: 5px;"><u>FY 2000</u></th> <th colspan="4" style="text-align: center; padding: 5px;"><u>FY 2001</u></th> </tr> <tr> <td style="padding: 5px 10px;">1</td> <td style="padding: 5px 10px;">2</td> <td style="padding: 5px 10px;">3</td> <td style="padding: 5px 10px;">4</td> <td style="padding: 5px 10px;">1</td> <td style="padding: 5px 10px;">2</td> <td style="padding: 5px 10px;">3</td> <td style="padding: 5px 10px;">4</td> <td style="padding: 5px 10px;">1</td> <td style="padding: 5px 10px;">2</td> <td style="padding: 5px 10px;">3</td> <td style="padding: 5px 10px;">4</td> </tr> </table> </div> </div> <p style="margin-top: 20px;">(U) X = Planned event</p>												<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>				1	2	3	4	1	2	3	4	1	2	3	4
<u>FY 1999</u>				<u>FY 2000</u>				<u>FY 2001</u>																											
1	2	3	4	1	2	3	4	1	2	3	4																								
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE									
								February 2000									
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT									
05 - Engineering and Manufacturing Development				0604735F Combat Training Ranges				652286									
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>																	
				<u>FY 1999</u>		<u>FY 2000</u>		<u>FY 2001</u>									
(U) Aircraft Interface Development				926		505		2,007									
(U) Mini-Mutes Modification Program (M3P)				4,175		4,764		2,764									
(U) MUTES Computer Upgrade				0		0		1,200									
(U) Joint Service Interoperability Improvements				1,710		620		2,692									
(U) ACTS (Air Combat Training System) Software Support Evaluation and Test (ASSETS) Efforts				2,252		100		145									
(U) Joint Tactical Combat Training Ranges (JTCTS)/Alpena Development				1,000		0		0									
(U) Combat Training Ranges Program Office Support				3,078		2,839		3,751									
(U) NACTS Encryption Development						3,000											
(U) Total				13,141		11,828		12,559									
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>																	
(U) <u>Performing Organizations:</u>																	
<u>Contractor or</u>		<u>Contract</u>															
<u>Government</u>		<u>Method/Type</u>															
<u>Performing</u>		<u>Award or</u>															
<u>Activity</u>		<u>Obligation</u>															
<u>Vehicle</u>		<u>Date</u>															
<u>Product Development Organizations</u>																	
Cubic Defense (NACTS)		C/CPAF/FFP		Mar 95		31,149		0		0		0		0		31,149	
Raytheon (JTCTS)		Navy Contr		Mar 95		2,500		1,000		0		0		0		3,500	
ASI (ASSET)		CPAF		Sep 96		2,385		2,252		100		145		Continuing		TBD	
Harris Corp (Advanced Threats)		CPFF		May 98		380		4,175		4,764		3,964		Continuing		TBD	
Joint Interoperability		Navy Contract		Mar 97		3,429		1,710		620		2,692		Continuing		TBD	
Aircraft Interface		Through		Jun 96		1,035		926		505		2,007		Continuing		TBD	
		MOAs with															
		ALCs &															
		Aircraft SPO															
		Contractors															
NACTS Encryption		TO BE		3rd Qtr/00						3,000						3,000	
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							February 2000
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(U) <u>Performing Organizations Continued:</u>							
<u>Product Development Organizations</u>							
COMPETED							
L3 CONIC (AMODSM)	Navy	FY95	2,880	0	0	0	2,880
Contractor							
<u>Support and Management Organizations</u>							
AAC/WRR, Eglin AFB, FL	Various		8,576	2,778	2,539	3,451	Continuing TBD
NAWC,China Lake, CA	Various		113	0	0	0	113
<u>Test and Evaluation Organizations</u>							
AAC/WRR,Eglin AFB, FL	Various		1,405	100	100	100	Continuing TBD
46 Test Wing, Eglin AFB, FL	Various		640	200	200	200	Continuing TBD
			<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
			<u>to FY 1999</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>
<u>Subtotals</u>							<u>Total</u>
Subtotal Product Development			43,758	10,063	8,989	8,808	TBD
Subtotal Support and Management			8,689	2,778	2,539	3,451	TBD
Subtotal Test and Evaluation			2,045	300	300	300	TBD
Total Project			54,492	13,141	11,828	12,559	TBD

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